

EXHIBIT A: Comparative PSR Potency and Safety for Representative Trichothecenes

MOLECULE DESCRIPTION				ID 50 (ng/ml)	LD 50 (in mg/kg BW)		Human Lung Dose/Safety			
Type	Molecular Formula	Molec. Mass	Mlt. Pt. (°C)	CAS Number	HEp2 /HSV2	IV	IP	Lung Dose 3X ID50 (in ng)	LD 50 (in ng)	Times Safer
Type A						1.6	4.2	5760	294000000	51,042
T-2 Toxin	C24 H34 O9	466	151	21259-20-1		2.3	12	8280	840000000	101,449
DAS (Diacetoxyscirpenol)	C19 H26 O7	366	162	2270-40-8		52	15	187200	101500000	5,422
NEOS (Neosolaniol)	C19 H26 O8	382	171	36519-25-2						
Type B										
DON (Deoxynivalenol)	C15 H20 O6	296	151	51481-10-8		94	7.3	338400	4900000000	14,480
NIV (Nivalenol)	C15 H20 O7	312	222	23282-20-4		50	7.4	180000	511000000	2,839
FusX (Fusarenon - X)	C17 H22 O8	354	91	23255-69-8		26	3.4	93600	2380000000	2,543
Type C										
Crotocin						250				
Macrocyclic										
Satratoxin G	C29 H36 O10	528	162			1.5		5400		
Satratoxin H	C29 H36 O9	528	198			1.4		7000000		
Roridin A	C29 H40 O9	532				1		5040		
Verrucarin A	C27 H34 O9	502	360					3600		
Baccharinoid B-4								105000000		
Baccharinoid B-5								147600		
								32400		

Notes & Abbreviations:

Cell line origin: HEp2 = epidermoid carcinoma

Administration Route: IV = intravenous, IP = intraperitoneal

ID 50 for cells: concentration required for 50% protein synthesis inhibition in cultured human epidermoid cell lines - HSV protein synthesis inhibition model used

Administration Route: IV = intravenous, IP = intraperitoneal

LD 50 based on mouse models

Human Lung Dose/Safety: 3 times ID50 used for ~ complete protein synthesis restriction (PSR), 1200 grams = average human lung

LD50 based on avg. 70 KG human, IV LD 50 used when available, otherwise IP LD 50 used

Times safer = LD 50 in ng + 3X ID 50 lung dose in ng. (in animal models 5 X safer = no mortality)